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Spatialized Audio in a Three-Dimensional, Computer-Based Scene

Abstract

5 A system and method for enabling an audio conference server (ACS) to
provide an application program with multi-point weight controllable audio
conferencing. The ACS manages a plurality of audio conferences, receives
audio data from a plurality of audio clients, mixes the audio data to provide
distance-based attenuation according to decay characteristics for each sound,
and delivers the mixed audio data to a plurality of audio clients. Audio clients
10 include set-top box (STB) audio clients and point source audio (PSA) audio
clients. The ACS mixes the audio data by identifying a decay factor. Pre-
defined decay factors include an audio big decay factor, an audio small decay
factor, an audio medium decay factor, and a constant decay factor. One can
also develop a customized decay factor. A weighted value for a source audio
15 client based on the identified decay factor and the distance between the source
audio client and a target audio client is determined. A mix table is generated
using the weighted values for each source/target audio client pair. Then an
actual mix value for each target audio client is calculated using the mix table.
The present invention also includes means for refining the actual mix value.